

ABSTRACT OF THE DISCLOSURE

A tunable laser is disclosed including a gain section for creating a light beam over a bandwidth, a phase section for controlling the light beam around a center frequency of the bandwidth, a waveguide for guiding and reflecting the light beam in a cavity including a relatively low energy bandgap separate-confinement-heterostructure (SCH), a front mirror bounding an end of the cavity and a back mirror bounding an opposite end of the cavity wherein gain is provided by at least one of the group comprising the phase section, the front mirror and the back mirror.

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